

Remarks

Examiner Peralta is thanked for the thorough Office Action.

Election/Restriction

Applicant acknowledges the final of the requirement of with respect to the applicant's traverse of the invention claims 1 to 45. Please cancel non-elected claims 46 to 75. Applicant reserves the right to prosecute claims 46 to 75 in a divisional patent application at a later date.

In the Claims

Independent claims 1, 17 and 32 have each been amended by including the limitation from respective dependent claims 4, 5; 20, 21; and 35, 36; "the patterned cover layer being comprised of a polyimide/benzocyclobutene stack" with dependent claims 4, 5; 20, 21; and 35, 36 thus having been correspondingly amended to delete this limitation.

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Claims 46 to 75 have been canceled as being drawn to a non-elected species. Applicant reserves the right to prosecute claims 46 to 75 in a divisional patent application at a later date.

Claim Rejections

The Rejection Of Claims 1 To 4 And 6 Under 35 U.S.C. §102(b) As Anticipated By Kao et al. (U.S. Patent No. 6,249,044 B1)

The rejection of claims 1 to 4 and 6 under 35 U.S.C. §102(b) as anticipated by Kao et al. (U.S. Patent No. 6,249,044 B1) (the '044 Kao Patent) is acknowledged.

The Rejection Of Claims 5, 7 To 11 And 16 Under 35 U.S.C. §103(a) as Being Unpatentable Over Kao et al. (U.S. Patent No. 6,249,044 B1) In View Of Cheung (EP 1148548 A2)

The rejection of claims 5, 7 to 11 and 16 under 35 U.S.C. §103(a) as being unpatentable over Kao et al. (U.S. Patent No. 6,249,044 B1) (the '044 Kao Patent) in view of Cheung (EP 1148548 A2) (the '548 Cheung EP Application) is acknowledged.

The Rejection Of Claims 12 To 15 Under 35 U.S.C. §103(a) as Being Unpatentable Over Kao et al. (U.S. Patent No. 6,249,044 B1) In View Of Dagenais et al. (U.S. Patent No. 6,506,672 B1)

The rejection of claims 12 to 15 under 35 U.S.C. §103(a) as being unpatentable over Kao et al. (U.S. Patent No. 6,249,044 B1) (the '044 Kao Patent) in view of Dagenais et al. (U.S. Patent No. 6,506,672 B1) (the '672 Dagenais Patent) is acknowledged.

The Rejection Of Claims 17 To 20, 22 To 26, 28 To 30, 32 To 35, 37 To 41, 44 And 45 Under 35 U.S.C. §103(a) as Being Unpatentable Over Kao et al. (U.S. Patent No. 6,249,044 B1) In View Of Dagenais et al. (U.S. Patent No. 6,506,672 B1)

The rejection of claims 17 to 20, 22 to 26, 28 to 30, 32 to 35, 37 to 41, 44 and 45 under 35 U.S.C. §103(a) as being unpatentable over Kao et al. (U.S. Patent No. 6,249,044 B1) (the '044 Kao Patent) in view of Dagenais et al. (U.S. Patent No. 6,506,672 B1) (the '672 Dagenais Patent) is acknowledged.

The Rejection Of Claims 21, 27, 31, 36, 42 And 43 Under 35 U.S.C. §103(a) as Being Unpatentable Over Kao et al. (U.S. Patent No. 6,249,044 B1) In View Of Dagenais et al. (U.S. Patent No. 6,506,672 B1) As Applied To Claims 17 To 20 Above, And Further In View Of Cheung (EP 1148548 A2)

The rejection of claims 21, 27, 31, 36, 42, and 43 under 35 U.S.C. §103(a) as being unpatentable over Kao et al. (U.S. Patent No. 6,249,044 B1) (the '044 Kao Patent) in view of Dagenais et al. (U.S. Patent No. 6,506,672 B1) (the '672 Dagenais

Patent) as applied to claims 17 to 20 above, and further in view of Cheung (EP 1148548 A2) (the '548 Cheung EP Application) is acknowledged.

Applicants' wish to briefly point up the claimed features of their invention which are believed to be not shown nor obvious from the teachings of known references in this field. The claims all clearly define:

providing a structure;

forming a metal bond pad on the structure;

forming a patterned cover layer over the structure; the patterned cover layer including an opening exposing a portion of the metal bond pad; the patterned cover layer opening including side walls; the patterned cover layer being comprised of a polyimide/benzocyclobutene stack;

forming a metal cap layer over at least the exposed portion of the metal bond pad and the patterned cover layer side walls; and

forming a solder bump over the metal cap layer.

Please note that in the following discussion, number in parenthesis correspond to the instantly claimed invention and otherwise numbers correspond to the noted reference.

Despite the Examiner's remarks, the Applicant respectfully urges that the '044 Kao Patent does not disclose that the passivation layer 33 (patterned cover layer (14)) is comprised of a polyimide/benzocyclobutene stack. The Examiner's stated "...that the patterned cover layer [33] may comprise polyimide and that a stacked layer 39A comprising benzocyclobutene may be deposited over the structure..." page 3 of the instant Office Action. However this does not comport to the claimed invention, i.e., e.g.

"forming a patterned cover layer [(14)] over the structure [(10)]; the patterned cover layer [(14)] including an opening [(15)] exposing a portion [(19)] of the metal bond pad [(12)]; the patterned cover layer [(14)] opening including side walls [(11)]; the patterned cover layer [(14)] being comprised of a polyimide / benzocyclobutene stack;

forming a metal cap layer [(16)] over at least the exposed portion [(19)] of the metal bond pad [(12)] and the patterned cover layer [(14)] side walls [(11)];" from claim 1.

Clearly, the stacked layer 39A in combination with the passivation layer 33 (patterned cover layer (14)) of the '044 Kao Patent does not comport with the patterned cover layer (14) and limitations of the instantly claimed invention as quoted above.

Neither the '548 Cheung EP Application nor the '672 Dagenais Patent cited references cure this deficiency.

Thus, amended independent claim 1 recital of "forming a patterned cover layer over the structure; the patterned cover layer including an opening exposing a portion of the metal bond pad; the patterned cover layer opening including side walls;

the patterned cover layer being comprised of a polyimide/benzocyclobutene stack; forming a metal cap layer over at least the exposed portion of the metal bond pad and the patterned cover layer side walls..." distinguishes over the '044 Kao Patent under §102(b) because Kao does not disclose these limitations. Hence claims 2 to 4 and 6 also so distinguish over Kao.

With such amendments to independent claims 1, 17 and 32, claims 5 and 7 to 45 distinguish over the other reference combinations under §103(a) as stated by the Examiner by analogous reasoning, and further because, *inter alia*: the prior art lack a suggestion that the '044 Kao Patent should be modified in a manner required to meet the claims; the Examiner has made a strained interpretation of the '044 Kao Patent that could be made only be hindsight; and the Examiner has not presented a convincing line of reasoning as to why the claimed subject matter as a whole, including its differences over the prior art, would have been obvious.

Therefore claims 1 to 45 are submitted to be allowable over the cited references and reconsideration and allowance are respectfully solicited.

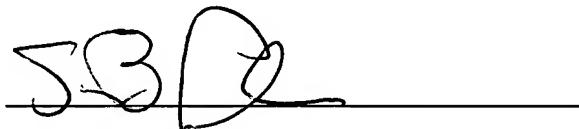
CONCLUSION

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In conclusion, reconsideration and withdrawal of the rejections are respectively requested. Allowance of all claims is requested. Issuance of the application is requested.

It is requested that the Examiner telephone Stephen G. Stanton, Esq. (#35,690) at (610) 296 - 5194 or the undersigned attorney/George Saile, Esq. (#19,572) at (845) 452 - 5863 if the Examiner has any questions or issues that may be resolved to expedite prosecution and place this Application in condition for Allowance.

Respectively submitted,

A handwritten signature in black ink, appearing to read "SBA", is placed above a solid horizontal line.

Stephen B. Ackerman
Reg. No. 37,761